

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Walter Fleischmann, et al.	Examiner:	Hargobind S. Sawhney
Serial No.:	10/731,344	Art Unit:	2875
Filed:	December 9, 2003	Docket:	17240
For:	LIGHTING SYSTEM FOR AIRCRAFT CABINS	Dated:	March 5, 2009

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Hon. Commissioner for Patents
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SUBSTITUTE APPEAL BRIEF

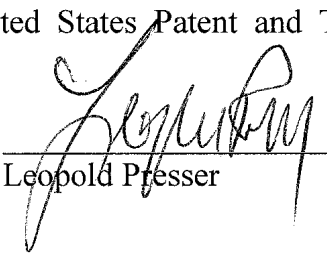
Sir:

Pursuant to the provisions of 35 U.S.C. 134 and 37 C.F.R. 41.37, entry of this Appeal Brief in support of the Notice of Appeal filed March 11, 2008, in the above-identified matter is respectfully requested.

CERTIFICATE OF ELECTRONIC FILING

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Dated: March 5, 2009



Leopold Presser

I. Statement of Real Party in Interest

The real party in interest in the above-identified patent application is the Diehl Luftfahrt Elektronik, GmbH, Röthenbach, Germany.

II. Statement of Related Appeals and Interferences

There are no other prior or pending appeals, interferences or judicial proceedings known to appellants, the appellants' legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. Status of Claims

A. Claim Status

Claims 2 and 5 have been cancelled in the Amendment dated June 9, 2005; Claims 4 and 6 have been cancelled in the Amendment dated June 14, 2006; and Claims 8, 16 and 24 have been cancelled in the Amendment dated September 12, 2007.

Claims 12-15 and 17-19 have been objected to due to grammatical informalities, as set forth in the Office Action dated November 26, 2007.

Claims 1, 3, 7, 9-15, 17-23 and 25-27 stand rejected based on 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,871,981 B2 in view of U.S. Patent No. 6,396,466 B1.

B. Appealed Claims

Claims 1, 3, 7, 9-15, 17-23 and 25-27, as filed on September 12, 2007, are appealed. A clean copy of these claims is contained in Appendix A to this Appeal Brief.

IV. Status of Amendments

No amendments are pending in this application. The last Amendment filed in this case was filed on January 30, 2008. The Examiner has not entered that Amendment.

V. Summary of Claimed Subject Matter

The present invention is based on a lighting system for aircraft cabins, including light emitting diodes which are arranged at or in a cabin wall. In particular, the light emitting diodes are associated with a plurality of lighting units which are connected to a control device actuated independently of each other through the intermediary of the control device. In that manner, the lighting system is adaptable to the most widely varying lighting purposes in a flexible and versatile fashion, particularly in which the control device possesses a plurality of outputs wherein various lighting which are to be actuated are connected to different outputs. Furthermore, lighting units, which are to be actuated at the same time, are connectable to the same output of the control device, wherein the electrical circuitry is preferably connected in parallel.

Concise explanation of the subject matter of Claim 1

Claim 1 is directed to a lighting system for the illumination of the interior of aircraft cabins [Page 1, lines 9 and 10 of the specification], comprising an arrangement of light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) [Page 2, lines 27-32 of specification; Figure 1] which are mounted selectively at or in a cabin wall or ceiling of said aircraft cabins to direct light to the interiors of said aircraft cabins, characterized in that there are provided a plurality of lighting units (4 - 7) [Page 2, lines 23-27 of the specification; Figure 1] which each have a plurality of light emitting diodes connected in series (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) [Page 2, lines 28-30 of the specification; Figure 1], the light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) are actuatable by means of pulse width modulation [Page 3, lines 28-28 of the specification; Figure 1] so as to selectively represent flashing, twinkling color change or moving lights, a control device (1) which has a plurality of

outputs (2.1 – 2.3) [Page 2, lines 21-22 of the specification; Figure 1], wherein lighting units (4 – 7) to be selectively actuated in various ways are connected to respectively different outputs (2.1 – 2.3) [Page 2, lines 23-27 of the specification; Figure 1] of said control device, and a plurality of regulating modules (12 – 15) [Page 2, lines 30-32 of the specification; Figure 1] are interposed between said control device and said lighting units, each of said regulating modules being connected to respectively one of the outputs (2.1 – 2.3) of said control device [Page 2, lines 21-30 of the specification; Figure 1], each one of said regulating modules having an output connected to, respectively, a separate one of said lighting units [Page 2, lines 27-30 of the specification; Figure 1], wherein actuation of the lighting units (4 – 7) is effected independently of each other through operation of the control device (1), each said regulating module (12 – 15) holding the current passing through the light emitting diodes (8.1 – 8.5, 9.1 – 9.5, 10.1 – 10.5, 11.1 – 11.5) of a therewith associated lighting unit (4 – 7) at a constant value [Page 2, lines 30-32 of the specification; Figure 1].

Concise explanation of the subject matter of Claim 12

Claim 12 is directed to a lighting system for the illumination of the interior of aircraft cabins [Page 1, lines 9 and 10 of the specification], comprising an arrangement of light emitting diodes (8.1 – 8.5, 9.1 – 9.5, 10.1 – 10.5, 11.1 – 11.5) [Page 2, lines 27-32 of the specification; Figure 1] which are mounted at or in a cabin wall or ceiling of said aircraft cabins to direct light to the interiors of said aircraft cabins so as to selectively represent flashing, twinkling [Page 3, lines 28-33] color change or moving lights [Page 3, lines 13-15 of the specification; Figures 2a-2c], characterized in that there are provided a plurality of lighting units (4 – 7) [Page 2, lines 23-27 of the specification; Figure 1] which each have a plurality of said light emitting diodes (8.1 – 8.5, 9.1 – 9.5, 10.1 – 10.5, 11.1 – 11.5), connected to an output of a respective one of the plurality of regulating modules (12 – 15) [Page 2, lines 26-30 of the specification; Figure 1], a control device (1) which has a plurality of outputs (2.1 – 2.3) [Page 2, lines 21 and 22 of the specification; Figure 1], each of said regulating modules (12 – 15) being connected to respectively one of the outputs (2.1 – 2.3) of said control device, wherein the regulating modules (12 – 15) of lighting units (4 – 7) to be selectively actuated in various ways are connected to respectively different outputs (2.1 – 2.3) of said control device [Page 2,

lines 23-27 of the specification; Figure 1], and wherein actuation of the lighting units (4 – 7) is effected independently of each other through operation of the control device (1), each said regulating module (12 – 15) holding the current passing through the light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) of a therewith associated lighting unit (4 – 7) at a constant value [Page 2, lines 30-32 of the specification; Figure 1].

Concise explanation of the subject matter of Claim 20

Claim 20 is directed to a lighting system for the illumination of the interior of aircraft cabins [Page 1, lines 9 and 10 of the specification], comprising an arrangement of light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) [Page 2, lines 27-32 of the specification; Figure 1] which are mounted at or in a cabin wall or ceiling of said aircraft cabins to direct light to the interiors of said aircraft cabins, characterized in that there are provided a plurality of lighting units (4 – 7) [Page 2, lines 23-27 of the specification; Figure 1] which each have a plurality of said light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) [Page 2, lines 28-30 of the specification; Figure 1], connected to an output of a respective one of the plurality of regulating modules (12 - 15) and which are actuatable so as to selectively represent flashing, twinkling color change or moving lights [Page 3, lines 13-15 and 28-33 of the specification; Figures 2a-2c], a control device (1) which has a plurality of outputs (2.1 – 2.3) [Page 2, lines 21-22 of the specification; Figure 1], each of said regulating modules (12 – 15) being connected to respectively one of the outputs (2.1 – 2.3) of said control device [Page 2, lines 21-30 of the specification; Figure 1], wherein the regulating modules (12 – 15) of lighting units (4 – 7) to be selectively actuated in various ways are connected to respectively different outputs (2.1 – 2.3) of said control device, and wherein actuation of the lighting units (4 – 7) is effected independently of each other through operation of the control device (1), each said regulating module (12 – 15) holding the current passing through the light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) of a therewith associated lighting unit (4 – 7) by means of pulse modulation [Page 3, lines 28-33 of the specification; Figure 1].

Pursuant to the invention, the lighting system for aircraft cabins incorporates light emitting diodes, which are arranged at or in a cabin wall, and which enables the lighting system to be utilized in a highly advantageous manner providing for a diversity of light applications. In this connection, the light emitting diodes, which are provided for in the lighting system, are associated with a plurality of lighting units that are connected to the control device and are actuated independently of each other by means of the control device. This adapts the lighting system to widely varying lighting purposes in a flexible and versatile fashion [Page 1, lines 25-34 of the specification]. The lighting system, in order to provide the foregoing advantages, is equipped with a regulating module for each lighting unit which maintains the current through the light emitting diodes at a constant value, and wherein the light emitting diodes are preferably actuated by means of pulse width modulation [Page 2, lines 1-6 of the specification; and Page 3, lines 28-33 of the specification].

In order to achieve the foregoing, the control device is equipped with a plurality of outputs, whereby various lighting units, which are to be actuated, are connected to different outputs in the control device, whereas lighting units, which are concurrently actuated, are connectable to the same output of the control device, whereby the electrical circuitry is connected in a parallel relationship [Page 1, lines 30-35 of the specification]. In order to enable the foregoing in a preferred manner, the regulating modules of the lighting units hold the light emitting diodes to the constant value, whereby the lighting units are equipped with a plurality of light emitting diodes, which are electrically connected in series and are actuated through pulse width modulation [Page 2, lines 1-6].

The foregoing arrangement provides for a unique lighting system for aircraft cabins, which imparts the ability thereto of having the light emitting diodes of various colors to be dimmed at various levels of brightness, enable flashing, twinkling and a traveling light effect, which potentially different colorings [Page 3, lines 28-33 of the specification].

VI. Grounds of Rejection to be Reviewed on Appeal

Applicants ask that each of the following grounds of rejection be reviewed:

1. Whether Claims 12-15 and 17-19 are properly objected to due to informalities set forth in Paragraph 2 of the Final Rejection dated November 26, 2007.
2. Whether Claims 1, 3, 7, 9-15, 17-23 and 25-27 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 6,871,981 B2 to Alexanderson, et al. in view of U.S. Patent No. 6,396,466 B1 to Pross, et al.

VII. Argument

A. The objection to Claims 12-15 and 17-19 due to alleged indefiniteness of Claim 12 (from which Claims 13-15 and 17-19 are dependent).

1. Claim 12

The Examiner has objected Claim 12 on the ground that the terminology is not quite clear an indication as to whether the LEDs must have capability of representing the above-indicated lighting pattern or the LEDs can capably represent selective flashing, twinkling, color changing or moving lights. The foregoing terminology is deemed to be clear in defining the invention and would be clearly understandable to one skilled in this particular technology. Thus, the minor grammatical terminology to which the Examiner has objected to in Claim 12 as to “must” or “can” is clearly understandable in that this relates to the selective operation of the LEDs to represent the various flashing, twinkling, color changing or movable light patterns. This is readily understood by a reading of the specification and claims and as represented in the drawings, and consequently, the objection to Claim 12 on that basis and the claims which are dependent therefrom, is not deemed to adversely affect the patentability and understanding of these claims. Accordingly, applicants respectfully request that this particular ground of formal objection to Claim 12, and the attendant dependent claims, be

withdrawn as dealing with minor grammatical points not at all obscuring the intent and clarity of the claim language.

2. Claims 1, 3, 7, 9-15, 17-23 and 25-27

The rejection of Claims 1, 3, 7, 9-15, 17-23 and 25-27 35 U.S.C. §103(a) as being unpatentable over Alexanderson, et al. in view of Pross, et al, whereby the present invention, as claimed, is deemed to be clear and patentable thereover, is respectfully requested to be reversed by the Board.

Applicants respectfully submit that the Examiner has failed to give full cognizance to the arguments and distinctions over the foregoing prior art as emphasized in the disclosure and claims and as presented in the arguments, which were submitted in response to the previous Office Actions of June 18, 2007 and November 26, 2007.

Concerning the foregoing, applicants respectfully submit the following arguments, which clearly and unambiguously support a reversal of the Examiner's rejection of Claims 1, 3, 7, 9-15, 17-23 and 25-27.

In particular, in addition to the previously submitted arguments and comments concerning the prior art, applicants also note that neither Pross, et al. nor Alexanderson, et al. provide for the type of structure and function analogous to that set forth and claimed herein.

Applicants note that the Examiner's comments with regard to Pross, et al., in referring to Column 4, Lines 39-45, are clearly erroneous inasmuch as Pross, et al. fails to in any manner describe therein independent actuation of different LED chains or series.

Concerning the prior art, neither reference of record discloses the essential features and integers as set forth by the present invention, as claimed in that neither of the references contains the feature that the plurality of lighting units at any particular time is connected to an output of a control device.

From the applied art, even when combined, there cannot be ascertained, nor is there any teaching that a plurality of lighting units, which each respectively possess at least one light emitting diode, are connected to different outputs of a control device, whereby the different lighting units, which are to be actuated, are connected to different outputs, in that through the control device, there is effected the actuation of the lighting units by means of pulse width modulation and independently of each other, and wherein the lighting units contain a regulating module, which maintains the current pressing through the lighting units to a constantly or uniformly remaining value.

The foregoing combination of features cannot be ascertained from either of the cited publications.

From neither Alexanderson, et al. nor Pross, et al. would one of skill in the art be able to ascertain or even teach that the actuation of the light emitting diodes, which are due to the utilization of pulse width modulation corresponds to the regulation of the voltage, be undertaken in a central control device, which for different actuating profiles possesses different output channels, whereas the regulation of the current (to a constant value) is to be undertaken in a regulating module, which is separately provided in each lighting unit.

The regulating module has the task that voltage fluctuations and detrimental voltage peaks, which are unavoidable in the onboard circuit of an aircraft, be held back by the light emitting diodes and through a constant current regulation to facilitate that the brightness light emitting diodes is determined exclusively through the pulsing behavior of the pulse width modulation, and is not influenced by means of voltage fluctuations or voltage peaks, and consequently, is adjustable in a repeatable mode.

Due to the strict EMV prescriptions in aircraft construction, it is hereby important that these reductions in any “disruptions” are implemented as closely as possible to the light emitting diodes, as a result of which the regulating modules are contained in the lighting units and not in the central control device.

The foregoing circuit connections and structure is clearly defined and set forth in the present claims, and cannot be derived from either Alexanderson, et al. nor from Pross, et al., irrespective as to whether considered singly or in combination.

Concerning the art, as represented by Alexanderson, et al., even if combined with Pross, et al., this would not render the present invention obvious to one of skill in this particular technology. Alexanderson, et al. merely describes an LED lighting device and system for the interior of a vehicle or aircraft, which includes a case and wherein a lighting arrangement is provided for by a plurality of light-emitting diodes and resistors mounted on a circuit board in series which generate light through a lens which is attached to both sides of the channel case and which may form a wall structure of the vehicle or aircraft. This is essentially the aspect which is described as prior art in the present specification.

However, as can be clearly ascertained from the structure and function of Alexanderson, et al., there is no particular or suggested use or installation of a control device and regulating module which enables the control device to actuate the plurality of lighting units and resultingly the light emitting diodes in a manner to provide the various selective operation thereof. Furthermore, there is no disclosure in Alexanderson, et al. of the pulse width modulation in a manner whereby lighting units are connected to the control device and, furthermore, the lighting units are connected to the regulating module in a manner analogous to that set forth and claimed herein, so as to enable the variation, preferably by means of common pulse width modulation for light emitting diodes of various colors to be dimmed in various levels of brightness and to provide the lighting effects, as claimed and described herein.

To the contrary, Alexanderson, et al. merely provides a basic lighting system, which does not provide for the capability of selectively operating the light emitting diodes through the intermediary of the novel control device and regulating components or modules in a manner as described and claimed herein, whereby the selective operation of the different series of lighting units comprising each plurality of light emitting diodes can be operated so as to

afford the instantaneous modifications and changes effected through the various output channels of the control device.

This is afforded by the parallel connections of the regulating modules with the outputs of the control device and wherein the regulating modules are arranged each in series with a lighting unit comprising a series of LEDs.

This is not in any manner disclosed nor suggested in Alexanderson, et al., as clearly admitted by the Examiner in the Office Action dated June 18, 2007, Alexanderson, et al. does not teach the LED-based lighting system, which is operationally coupled to a control unit, a pulse width modulator and a plurality of regulating modules arranged and claimed by the applicants having reference to the present specification and claims in conjunction with the drawing Figure 1.

Consequently, the inapplicability of Alexanderson, et al. with respect to the present invention is clearly established by the Examiner's own admission, and the claims are deemed to clearly and patentably distinguish thereover.

Even combining Alexanderson, et al. with Pross, et al. fails to provide a structure and circuitry capable of the functions provided in the present invention, as disclosed and claimed herein. Hereby, as a further distinction over the art, applicants entered in the Amendment of September 12, 2007, clearly introduced the limitations with respect to the light emitting diodes being actuatable so as to selectively represent flashing, twinkling, color change or moving lights.

Accordingly, upon careful consideration of Alexanderson, et al., it, thus, becomes readily apparent to one skilled in the art that the claims, as presently on file, are not in any manner neither anticipated by nor rendered obvious over the Alexanderson, et al. publication.

The novel aspects imparting the versatility of operation to the lighting units containing the pluralities of light emitting diodes in conjunction with the functional aspects of the regulating

modules and the control device are clearly set forth in the present specification and illustrated in Figure 1 of the drawings.

It remained for the present applicants to uniquely combine the operative interrelationship of the control device in conjunction with the plurality of regulating modules which are each respectively associated with a particular lighting unit to enable the selective functioning of the different lighting units in a manner to provide the variations in operating cycles, such as twinkling and color changes, as described and claimed herein.

Reverting to Pross, et al., as previously discussed in detail by the applicants in response to the Office Actions, this publication discloses a display light for vehicles, such as a taillight and brake light or directional blinkers and emergency blinkers, as set forth in Column 1, line 7, as well as lines 17 and 18 of Pross, et al.

In no manner can there be ascertained or derived any suggestion in Pross, et al. of a lighting system for the interior illumination of an aircraft cabin, which operates in a manner as described and claimed herein. Pross, et al. is incapable of providing such a lighting system inasmuch as this publication pertains to a limited application for display lights for automobiles, and there is a complete lack of the control device operating conjunction with a plurality of regulating modules in order to selectively operate the lighting units in a manner as described and claimed herein and also to control the intensity of the light through pulse width modulation.

Combining Pross, et al. with Alexanderson, et al., accordingly, would not be logical or obvious to one skilled in the art, nor would it even suggest itself to one in this particular state of the technology.

The Pross, et al. publication does not describe that there could be effected an independent actuation of different chains of light emitting diodes operated by means of the regulating modules, as set forth and claimed herein. To the contrary, Pross, et al., in Column 4, lines 39-45, merely describe that each of the branches of a lighting unit are connected to a logic

control circuit, a current source 15, which provides for the aspect that a constant current flows in parallel connected LED chains. There is no capability or even suggestion in Pross, et al. of being able to implement an independent and individual selective actuation of different LED chains analogous to that set forth and claimed herein.

It would not be obvious nor even suggest itself to one of skill in this particular art to combine Pross, et al. with Alexanderson, et al. since both publications are deemed to deal with entirely different aspects of lighting technology and physical applications thereof.

The foregoing aspects for providing the unique selective operation of the light emitting diodes which constitute separate chains of lighting units under the control of regulating modules which are operated in conjunction with a control device to provide for the different lighting and color aspects are deemed to provide clear and novel structure and function over the art, as represented by the particular publications. The suggestion and assertion by the Examiner that the two publications are clearly combinable is deemed to be completely unfounded and not supported by the structure and functions disclosed in the respective publications to Alexanderson, et al. and Pross, et al.

It remained for the present applicants to combine unique aspects of the inventive features, such as the control device in operative cooperation with the plurality of regulating modules which are connected to different chains of LEDs of various lighting units to be connected and operated in a mode not at all ascertainable or suggested from the references of record being presented by the Examiner.

Predicated on the foregoing comments, which are also applicable to the various dependent claims, which are, respectively, dependent from independent Claims 1, 12 and 20, these are also clearly patentable over the art inasmuch as these dependent claims are directed to further specific features of Claims 1, 12 and 20.

Further predicated on the foregoing comments, which are presented in support of the presently appealed claims, the Board is respectfully requested to reconsider and withdraw the rejection of Claims 1, 3, 7, 9-15, 17-23 and 25-27 under 35 U.S.C. §103(a) and the objections to Claim 12 and the dependent claims in view of unclear terminology.

VIII. Claim Appendix

A clean copy of Claims 1, 3, 7, 9-15, 17-23 and 25-27 is contained in Appendix A attached herewith to this Appeal Brief.

IX. Evidence Appendix

No further evidence, with the exception of that set forth hereinabove, is being relied upon which would have a bearing on the Board's decision in this appeal.

X. Related Proceedings Appendix

As indicated above, there are no other prior or pending appeals, interferences or judicial proceedings known to appellants, the appellants' legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Conclusion

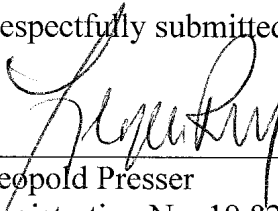
Based on the above-discussed differences between the claims being appealed and the art, as represented by Alexanderson, et al. and Pross, et al., the appealed claims are deemed to be clearly directed to patentable subject matter.

Dated: May 9, 2008

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Enclosure: Appendix A

Respectfully submitted,



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APPENDIX A

1. (Currently Amended) A lighting system for the illumination of the interior of aircraft cabins, comprising an arrangement of light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) which are mounted selectively at or in a cabin wall or ceiling of said aircraft cabins to direct light to the interiors of said aircraft cabins, characterized in that there are provided a plurality of lighting units (4 - 7) which each have a plurality of light emitting diodes connected in series (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5), the light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) are actuatable by means of pulse width modulation so as to selectively represent flashing, twinkling color change or moving lights, a control device (1) which has a plurality of outputs (2.1 - 2.3), wherein lighting units (4 - 7) to be selectively actuated in various ways are connected to respectively different outputs (2.1 - 2.3) of said control device, and a plurality of regulating modules (12 - 15) are interposed between said control device and said lighting units, each of said regulating modules being connected to respectively one of the outputs (2.1 - 2.3) of said control device, each one of said regulating modules having an output connected to, respectively, a separate one of said lighting units, wherein actuation of the lighting units (4 - 7) is effected independently of each other through operation of the control device (1), each said regulating module (12 - 15) holding the current passing through the light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) of a therewith associated lighting unit (4 - 7) at a constant value.

3. A lighting system according to claim 1 characterized in that lighting units (4 - 7) which are to be actuated at the same time are connected to an output (2.1 - 2.3) of the control

device (1), wherein the lighting units (4 - 7) are electrically connected in parallel with each other.

7. A lighting system according to claim 1 characterized in that the arrangement of light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) are mounted at or in the cabin wall or ceiling of said aircraft cabins so as to facilitate the displaying of signs or images.

9. Use of the lighting system according to claim 1 as effect-producing lighting, for stimulating a starry sky, for displaying information or for marking localities.

10. Use according to claim 9 characterised in that actuation of the lighting is effected coupled to events in the aircraft.

11. A lighting system according to claim 1, comprising a plurality of said light emitting diodes connected in series in at least one of said lighting units.

12. A lighting system for the illumination of the interior of aircraft cabins, comprising an arrangement of light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) which are mounted at or in a cabin wall or ceiling of said aircraft cabins to direct light to the interiors of said aircraft cabins so as to selectively represent flashing, twinkling color change or moving lights, characterized in that there are provided a plurality of lighting units (4 - 7) which each have a plurality of said light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5), connected to an output of a respective one of the plurality of regulating modules (12 - 15), a

control device (1) which has a plurality of outputs (2.1 – 2.3), each of said regulating modules (12 – 15) being connected to respectively one of the outputs (2.1 – 2.3) of said control device, wherein the regulating modules (12 – 15) of lighting units (4 – 7) to be selectively actuated in various ways are connected to respectively different outputs (2.1 – 2.3) of said control device, and wherein actuation of the lighting units (4 – 7) is effected independently of each other through operation of the control device (1), each said regulating module (12 – 15) holding the current passing through the light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) of a therewith associated lighting unit (4 – 7) at a constant value.

13. A lighting system as claimed in claim 12, wherein each said regulating module (12 – 15) holds the current passing through the light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) of a therewith associated lighting unit (4 – 7) through pulse width modulation.

14. A lighting system according to claim 12 characterized in that lighting units (4 - 7) which are to be actuated at the same time are connected to an output (2.1 - 2.3) of the control device (1), wherein the lighting units (4 - 7) are electrically connected in parallel with each other.

15. A lighting system according to claim 12 characterized in that the arrangement of light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) are mounted at or in the cabin wall or ceiling of said aircraft cabins so as to facilitate the displaying of signs or images.

17. Use of the lighting system according to claim 12 as effect-producing lighting, for stimulating a starry sky, for displaying information or for marking localities.
18. Use according to claim 12 characterized in that actuation of the lighting is effected coupled to events in the aircraft.
19. A lighting system according to claim 12, comprising a plurality of said light emitting diodes connected in series in at least one of said lighting units.
20. A lighting system for the illumination of the interior of aircraft cabins, comprising an arrangement of light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) which are mounted at or in a cabin wall or ceiling of said aircraft cabins to direct light to the interiors of said aircraft cabins, characterized in that there are provided a plurality of lighting units (4 - 7) which each have a plurality of said light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5), connected to an output of a respective one of the plurality of regulating modules (12 - 15) and which are actuatable so as to selectively represent flashing, twinkling color change or moving lights, a control device (1) which has a plurality of outputs (2.1 - 2.3), each of said regulating modules (12 - 15) being connected to respectively one of the outputs (2.1 - 2.3) of said control device, wherein the regulating modules (12 - 15) of lighting units (4 - 7) to be selectively actuated in various ways are connected to respectively different outputs (2.1 - 2.3) of said control device, and wherein actuation of the lighting units (4 - 7) is effected independently of each other through operation of the control device (1), each said regulating module (12 - 15) holding the current passing through the light emitting diodes (8.1 - 8.5, 9.1 -

9.5, 10.1 - 10.5, 11.1 - 11.5) of a therewith associated lighting unit (4 – 7) by means of pulse modulation.

21. A lighting system according to claim 20, wherein each said regulating module (12 – 15) holds the current passing through the light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) of a therewith associated lighting unit (4 – 7) at a constant value.

22. A lighting system according to claim 20 characterized in that lighting units (4 - 7) which are to be actuated at the same time are connected to an output (2.1 - 2.3) of the control device (1), wherein the lighting units (4 - 7) are electrically connected in parallel with each other.

23. A lighting system according to claim 20 characterized in that the arrangement of light emitting diodes (8.1 - 8.5, 9.1 - 9.5, 10.1 - 10.5, 11.1 - 11.5) are mounted at or in the cabin wall or ceiling of said aircraft cabins so as to facilitate the displaying of signs or images.

25. Use of the lighting system according to claim 20 as effect-producing lighting, for stimulating a starry sky, for displaying information or for marking localities.

26. Use according to claim 20 characterized in that actuation of the lighting is effected coupled to events in the aircraft.

27. A lighting system according to claim 20, comprising a plurality of said light emitting diodes connected in series in at least one of said lighting units.